

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the Application:

Listing of Claims:

1. (Original) A microelectromechanical system (MEMS) comprising:
a beam supported on flexible transverse arms to move longitudinally along a substrate, wherein ends of the arms removed from the beam are connected to the substrate by flexible elements allowing transverse movement of the ends of the arms.
2. (Original) A microelectromechanical system (MEMS) comprising:
a beam supported on flexible transverse arms to move longitudinally along a substrate, wherein ends of the arms removed from the beam are connected to the substrate by flexible longitudinally extending wrist elements.
3. (Withdrawn) The microelectromechanical system of claim 2 wherein the wrist elements join to the arms via an arcuate section.
4. (Original) The microelectromechanical system of claim 2 wherein the wrist elements are serpentine.
5. (Original) The microelectromechanical system of claim 4 wherein the ends of the arms removed from the beam are serpentine.
6. (Original) The microelectromechanical system of claim 2 wherein the ends of the arms removed from the beam are serpentine.
7. (Withdrawn) The microelectromechanical system of claim 2 wherein the beam is supported at longitudinally opposed ends by respective pairs of transverse arms extending from the beam on opposite sides of the beam and wherein the wrist

elements for the transverse arms extend in a longitudinal direction toward the center of the beam.

8. (Withdrawn) The microelectromechanical system of claim 2 wherein the beam is supported at opposed ends by respective pairs of transverse arms extending from the beam on opposite sides of the beam and wherein the wrist elements for the transverse arms extend in a longitudinally direction away the center of the beam.

9. (Withdrawn) The microelectromechanical system of claim 2 wherein the transverse arms and wrist elements are conductive.

10. (Original) The microelectromechanical system of claim 2 wherein including a magnetic field.

11. (Withdrawn) The microelectromechanical system of claim 2 wherein the beam is supported at its center by a pair of transverse arms extending from the beam on opposite sides of the beam and wherein the wrist elements for the transverse arm extend in opposite longitudinal directions.

12. (Withdrawn) The microelectromechanical system of claim 2 wherein the beam is supported at longitudinally opposed ends and at an intermediate point by respective pairs of transverse arms extending from the beam on opposite sides of the beam and wherein the wrist elements for the transverse arms at the opposed ends of the beam extend in the same longitudinally direction and wherein the wrist element for the transverse arms at the intermediate point of the beam extend in opposite longitudinal directions.

13. (Original) The microelectromechanical system of claim 2 wherein the transverse arms are of equal length.

14. (Original) The microelectromechanical system of claim 2 wherein a point of attachment of the transverse arms at the intermediate point is centered between points of attachment of the transverse arms at the opposed ends of the beam.

15. (Withdrawn) The microelectromechanical system of claim 2 wherein a first opposing of the beam supports an actuator selected from the group consisting of a Lorentz force motor, an electrostatic motor, a piezoelectric motor, a thermal-expansion motor, and a mechanical-displacement motor.

16. (Withdrawn) The microelectromechanical system of claim 2 wherein the center arm supports a sensing device selected from the group consisting of: a capacitive sensor, a piezoelectric sensor, a photoelectric sensor, a resistive sensor, an optical switching sensor and an inductive sensor.

17. (Original) The microelectromechanical system of claim 2 wherein the ends of the transverse arms removed from the beam are connected to a free end of a transverse expansion element attached to the substrate only at a point proximate to the beam.

18. (Withdrawn) The microelectromechanical system of claim 2 wherein the beam is supported at longitudinally opposite ends by respective pairs of transverse arms extending from the beam on opposite sides of the beam and wherein the beam is sized to place the respective pairs of transverse arms in equal and opposite flexure.

19. (Withdrawn) The microelectromechanical system of claim 2 at least one pair of flexible transverse arms extends in a bow to present force increasingly resisting longitudinal motion of the beam in a first direction up to a snap point after which the force abruptly decreases.

20. (Original) A microelectromechanical system (MEMS) comprising:
a beam supported on flexible transverse arms to move longitudinally along a substrate, wherein ends of the arms removed from the beam are connected to a free end of a transverse expansion element attached to the substrate only at a point proximate to the beam.

21. (Withdrawn) A microelectromechanical system (MEMS) comprising:
a beam supported on flexible transverse arms to move longitudinally along a substrate, wherein the beam is supported at longitudinally opposite ends by respective pairs of transverse arms extending from the beam on opposite sides of the beam and wherein the beam is sized to place the respective pairs of transverse arms in equal and opposite flexure.

22. (Withdrawn) The microelectromechanical system of claim 21 wherein the respective pairs of transverse arms are flexed concavely with respect to the center of the beam.

23. (Withdrawn) The microelectromechanical system of claim 21 wherein the respective pairs of transverse arms are flexed convexly with respect to the center of the beam.

24. (Withdrawn) The microelectromechanical system of claim 21 wherein the transverse arms are of equal length.

25. (Withdrawn) The microelectromechanical system of claim 21 wherein a point of attachment of the transverse arms at the intermediate point is centered between points of attachment of the transverse arms at the opposed ends of the beam.

26. (Withdrawn) The microelectromechanical system of claim 21 wherein a first opposing of the beam supports an actuator selected from the group consisting of: a Lorentz force motor, an electrostatic motor, a piezoelectric motor, a thermal-expansion motor, and a mechanical-displacement motor.

27. (Withdrawn) The microelectromechanical system of claim 21 wherein the center arm supports a sensing device selected from the group consisting of: a capacitive sensor, a piezoelectric sensor, a photoelectric sensor, a resistive sensor, an optical switching sensor and an inductive sensor.

28. (Withdrawn) A microelectromechanical system (MEMS) comprising:
a beam supported on at least one pair of flexible transverse arms to move longitudinally along a substrate extending in a bow to present force increasingly resisting longitudinal motion of the beam in a first direction up to a snap point after which the force abruptly decreases.

29. (Withdrawn) The microelectromechanical system of claim 28 wherein the force changes direction after the snap point.

30. (Withdrawn) The microelectromechanical system of claim 29 wherein after the snap point the bow increasingly resisting longitudinal motion of the beam in a second direction opposite the first direction up to a second snap point at which the force abruptly decreases.

31. (Withdrawn) The microelectromechanical system of claim 28 wherein the second snap point is different from the first snap point.

32. (Withdrawn) The microelectromechanical system of claim 28 wherein the force maintains the same direction after the snap point.

33. (Withdrawn) A microelectromechanical system (MEMS) comprising:
a beam supported for longitudinal motion along a substrate on at least one pair of flexible transverse arms, a first of which is angled so as to also extend longitudinally;
a sensor detecting transverse motion receiving the first transverse arm at an end removed from the beam;
whereby longitudinal motion of the beam may be amplified for detection by the sensor.

34. (Withdrawn) The microelectromechanical system of claim 33 wherein the sensor is selected from the group consisting of: a capacitive sensor, an optical sensor, a resistive sensor, a piezoelectric sensor, and an inductive sensor.

35. (New) A microelectromechanical system (MEMS) comprising:
a beam supported on a first pair of flexible transverse arms that are substantially aligned with one another and extend away from the beam in opposite directions;
a substrate, and
a first pair of pylons supported by the substrate, wherein a respective end of each of the first pair of transverse arms is coupled to a respective one of the first pair of pylons by a respective one of a first pair of wrist components, so that the transverse arms and the beam are supported above the substrate and so that the beam is able to move in relation to the substrate.
36. (New) The microelectromechanical system of claim 35 wherein the wrist components are serpentine.
37. (New) The microelectromechanical system of claim 36 wherein the ends of the arms removed from the beam are serpentine.
38. (New) The microelectromechanical system of claim 35 wherein the ends of the arms removed from the beam are serpentine.
39. (New) The microelectromechanical system of claim 35 wherein the beam is supported at a first end by the first pair of transverse arms and is supported at a second end by a second pair of transverse arms.
40. (New) The microelectromechanical system of claim 35 wherein the transverse arms and wrist components are conductive.
41. (New) The microelectromechanical system of claim 35, further including a magnetic field.
42. (New) The microelectromechanical system of claim 35, wherein the pylons are each positioned adjacent to the beam and wherein each of the pylons is coupled to a respective one of the wrist components by a respective expansion element extending outward away from the beam to the respective wrist component.

43. (New) The microelectromechanical system of claim 42, wherein at least portions of the intermediate arms have a first width that is greater than a second width of the transverse arms.

44. (New) The microelectromechanical system of claim 35 wherein the transverse arms are of equal length.

45. (New) A microelectromechanical system (MEMS) comprising:
a beam having a longitudinal axis;

first, second and third pairs of flexible transverse arms, wherein the arms of first, second and third pairs extend outward from first, second, and third regions of the beam in substantially opposite directions from the first, second and third regions of the beam, respectively; and

a substrate, wherein the beam is supported above the substrate for movement along its longitudinal axis, and wherein the beam is supported by the first, second and third pairs of flexible transverse arms, which in turn are supported by first, second and third pairs of wrist components that are at least indirectly supported by the substrate.

46. (New) The microelectromechanical system of claim 45 wherein at least some of the ends of the transverse arms are serpentine.

47. (New) The microelectromechanical system of claim 45 wherein at least some of the transverse arms and wrist components are conductive.

48. (New) The microelectromechanical system of claim 45, wherein at least some of the wrist components are coupled by respective intermediate arms to respective pylons, which in turn are supported by the substrate.

49. (New) The microelectromechanical system of claim 48, wherein the pylons are positioned adjacent to the beam.

50. (New) The microelectromechanical system of claim 48, wherein at least portions of the intermediate arms have a first width that is greater than a second width of the transverse arms.

51. (New) A microelectromechanical system (MEMS) comprising:
a beam having a first axis;
a pair of arms coupled to the beam and extending outward from the beam in opposite directions along a second axis that is substantially perpendicular to the first axis;
a pair of flexible end portions coupled respectively to a pair of ends of the respective arms; and
a pair of supports coupled respectively to the pair of flexible end portions, the pair of supports being formed on a substrate,
wherein at least a portion of each of the supports has a first width that is greater than a second width of the respective arms.

52. (New) The microelectromechanical system of claim 51, wherein each of the supports is at least one of a pylon positioned adjacent to the beam and an expansion element.

53. (New) The microelectromechanical system of claim 51, wherein the beam moves longitudinally along the first axis.